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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,068	03/08/2001	Marius Vaarkamp	VER-137XX	8851

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BOSTON, MA 02109

EXAMINER

STRICKLAND, JONAS N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 08/20/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/720,068

Applicant(s)

VAARKAMP, MARIUS

Examiner

Jonas N. Strickland

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-14 is/are rejected.
- 7) ☒ Claim(s) 5 and 15-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is in response to the amendment filed on 6/4/03 as Paper No. 7. Claims 1-18 are currently pending. Claims 2, 6, 11, 15, and 17 have been amended in order to overcome claim objections and 35 U.S.C. 112, second paragraph rejections from the previous Office Action. Applicant has also submitted a newly executed Declaration, which is approved by the Examiner.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the

Art Unit: 1754

claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claims 12 and 17 recite the broad recitation between 0.1 and 100, and the claim also recites 0.5 and 10 which is the narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 1-4, 6-8, 10, 11, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neuenfeldt et al. (US Patent 5,695,634).

Applicant claims a process for the regeneration of a catalyst, said catalyst comprising at least one precious metal on an amorphous silica-alumina support, in which process the catalyst is impregnated with an acid in liquid state, followed by reduction or oxidation of the impregnated catalyst at a temperature above 200°C.

Neuenfeldt et al. discloses a process for regenerating a supported noble metal catalyst. The catalyst support may be comprised of combinations of aluminum and silicon (col. 2, lines 3-8). Neuenfeldt et al. continues to disclose wherein the catalyst is regenerated by washing with hydrochloric acid (col. 4, lines 23-27). Neuenfeldt et al.

Art Unit: 1754

continues to disclose wherein a thermal treatment may then be carried out of at least 500°C (col. 3, lines 39-40) and adding a hydrogen gas to the catalyst reactor (col. 2, lines 54-65).

Therefore, it would have been obvious to one of ordinary skill in the art to impregnate a catalyst comprised of a precious metal on a silica-alumina support with an acid at a temperature above 200°C, because Neuenfeldt et al. teaches a process for regenerating a supported noble metal catalyst, wherein the catalyst support may be comprised of combinations of aluminum and silicon and wherein the catalyst is washed with an acid and then treated under reducing conditions above 200°C. It would have been obvious to regenerate a catalyst by impregnating a deactivated catalyst with a liquid acid, because Neuenfeldt et al. clearly teaches wherein the activity of a catalyst is restored after treatment with an acid. Furthermore, it would have been obvious to carry out reduction of the catalyst, because Neuenfeldt et al. teaches wherein the catalyst is brought into contact with hydrogen and then carrying out a thermal treatment of at least 500°C.

With respect to claim 2, Neuenfeldt et al. teaches wherein the catalyst may be comprised of palladium, platinum, or rhodium (col. 1, lines 25-27). With respect to claim 3, it would have been obvious to one of ordinary skill in the art to expect the degree of dispersion to increase, since Neuenfeldt teaches a catalyst comprised of a noble metal on a silica-alumina support, which is regenerated by a liquid acid, which is instantly claimed. With respect to claim 4, Neuenfeldt et al. teaches hydrogen gas being introduced into the catalyst reactor (col. 2, lines 56-65). With respect to claim 7,

Art Unit: 1754

wherein the catalyst is prepared by a sol-gel method. With respect to claims 8 and 9, it would have been obvious to achieve the desired ratios of the Si-Al atomic ratio and the precious metal, since Neuenfeldt et al. clearly establishes wherein it is known in the art to apply a precious metal to a sol-gel produced silica-alumina support. With respect to claim 13, it would have been obvious to burn off carbonaceous deposits prior to the impregnation, because Neuenfeldt et al. teaches wherein the thermal treatment may be carried out before the acid treatment (col. 3, lines 35-38). With respect to claim 14, Neuenfeldt et al. teaches wherein the catalyst may be regenerated outside or inside of the reactor (col. 2, lines 42-45).

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

9. Claims 5 and 15-18 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Neuenfeldt et al. is directed towards treating wastewater and is not directed towards regenerating a catalyst used from a process selected from a group consisting of hydrogenation, hydroisomerization, hydro-desulfurization, hydrowaxing and catalytic reforming. Furthermore, Neuenfeldt et al. does not disclose wherein the acid impregnated catalyst is oxidized in dry air, followed by reduction.


Art Unit: 1754

**Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.

  
Jonas N. Strickland  
August 18, 2003

  
STANLEY S. SILVERMAN  
SUPERVISORY PATENT EXAMINER  
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